

**IN THE CLAIMS:**

1 1-8 (CANCELLED)

1 9. (CURRENTLY AMENDED) An apparatus for improving utilization of a data link  
2 coupled to a network comprising:

3 | a packet buffer containing one or more queues configured to hold data, the one or  
4 more queues associated with an excess rate component;

5 | a queue manager coupled to the queues and configured to dequeue the data from  
6 the queues and transfer the data onto the data link;

7 auxiliary queue logic coupled to the queue manager and configured to generate  
8 scores for one or more of the queues, the scores to represent ratings of eligibility to trans-  
9 fer data in accordance with the excess rate component, the auxiliary queue logic further  
10 configured to maintain a scorecard of the generated scores and notify the queue manager  
11 of a queue associated with the highest score in the scorecard to cause the queue manager  
12 to dequeue data from the queue when the link becomes idle.

1 10. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 9 comprising:

2 | calendar queue logic coupled to the auxiliary queue logic and configured  
3 to notify the auxiliary queue logic when the data link becomes idle.

1 11. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 9 comprising:

2 | a scheduler coupled to the auxiliary queue logic and configured to maintain at-  
3 tribute information associated with the queues.

1 12. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 11 wherein the  
2 auxiliary queue logic is configured to acquire the attribute information associated with

3 the queues from the scheduler and use the attribute information to generate scores for the  
4 queues.

1 13. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 12 wherein the at-  
2 tribute information includes rate information associated with the queues.

1 14. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 13 wherein the rate  
2 information includes the excess rate component.

1 15. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 11 wherein the  
2 scorecard is a data structure comprising one or more entries, and wherein each entry con-  
3 tains a score field configured to hold a generated score and a queue identifier (QID) field  
4 configured to hold a QID associated with a queue.

1 16. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 15 wherein the  
2 auxiliary queue logic is configured to acquire attribute information and a QID associated  
3 with a queue, generate a score associated with the queue using the attribute information,  
4 and place the score and QID in the score and QID fields, respectively, of an entry con-  
5 tained in the scorecard.

1 17-20. (CANCELLED)

1 21. (CURRENTLY AMENDED) A method for improving utilization of a data link cou-  
2 pled to a network comprising:

3 | holding data in one or more queues contained in a packet buffer coupled to a  
4 queue manager, the one or more queues associated with an excess rate component;  
5 generating scores for the one or more of the queues, the scores to represent ratings  
6 of eligibility to transfer data in accordance with the excess rate component;  
7 maintaining a scorecard of the generated scores;

8           determining that a data link is idle; and  
9           dequeuing, by the queue manager, data from a queue associated with a highest  
10          score in the scorecard, and transferring the data onto the data link, in response to deter-  
11          mining that the data link has become idle.

1    **22. (PREVIOUSLY PRESENTED)** The method as defined in claim 21 further compris-  
2    ing:

3           acquiring attribute information associated with the one or more queues; and  
4           using the attribute information to generate the scores for the one or more queues.

1    **23. (PREVIOUSLY PRESENTED)** The method as defined in claim 22 wherein the at-  
2    tribute information includes rate information associated with the queues.

1    **24. (PREVIOUSLY PRESENTED)** The method as defined in claim 23 wherein the rate  
2    information includes the excess rate component.

1    **25. (PREVIOUSLY PRESENTED)** The method as defined in claim 21 as defined in  
2    claim 11 wherein the scorecard is a data structure comprising one or more entries, and  
3    wherein each entry contains a score field configured to hold a generated score and a  
4    queue identifier (QID) field configured to hold a QID associated with a queue.

1    **26. (PREVIOUSLY PRESENTED)** The method as defined in claim 25 further compris-  
2    ing:

3           acquiring attribute information and a QID associated with a queue;  
4           generating a score associated with the queue using the attribute information; and  
5           placing the score and QID in the score and QID fields, respectively, of an entry  
6           contained in the scorecard.

1 27. (PREVIOUSLY PRESENTED) The method as defined in claim 21 further comprising:  
2

3       determining the scorecard is full;  
4       in response to the scorecard being full, determining if a generated score is greater  
5       than a score contained in the scorecard; and  
6       if so, replacing a lowest score in the scorecard with the generated score.

1 28. (PREVIOUSLY PRESENTED) The method as defined in claim 21 further comprising:  
2

3       determining the scorecard is not full; and  
4       in response to the scorecard being not full, adding a generated score to the score-  
5       card.

1 29. (CURRENTLY AMENDED) An apparatus for improving utilization of a data link  
2       coupled to a network comprising:

3       | a packet buffer containing one or more queues configured to hold data, the one or  
4       more queues associated with an excess rate component;  
5       means for generating scores for the one or more of the queues, the scores to repre-  
6       sent ratings of eligibility to transfer data in accordance with the excess rate component;  
7       means for maintaining a scorecard of the generated scores;  
8       means for determining that a data link is idle; and  
9       means for dequeuing data from a queue associated with a highest score in the  
10      scorecard, and transferring the data onto the data link, in response to determining that the  
11      data link has become idle.

1 30. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 29 further comprising:  
2

3       means for acquiring attribute information associated with the one or more queues;  
4       and

5 means for using the attribute information to generate the scores for the one or  
6 more queues.

1 31. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 30 wherein the at-  
2 tribute information includes the excess rate component.

1 32. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 29 further com-  
2 prising:

3 means for determining if a generated score is greater than a score contained in the  
4 scorecard; and

5 means for replacing a lowest score in the scorecard with the generated score if the  
6 generated score is greater than a score contained in the scorecard.